Project Charter (Version ___1___) Date: __10/4/2010_____

Project Name: *Write out the entire, specific name.*

Future-scenarios - Scenarios of future water management conditions for the California Water Plan Update 2013

Sponsor/Program Manager	Paul Massera
Project Manager	Rich Juricich

Project Objective Statement: *What must the project do? By When? Keep this statement to 25 words or less. Make it SMART (Specific, Measurable, Achievable, Relevant, and Time-based).*

Quantify future water demand and supply conditions for three alternative growth related scenarios and up to 12 climate scenarios and use to evaluate performance of potential water management responses

Triple Constraint Trade-off

Resources	S	*Select a different flexibility letter for each constraint* *N= Not Flexible* *S= Somewhat Flexible* *M= Most Flexible*
Schedule	N	
Scope	M	

Estimated Start Date:	7/1/2010	Estimated End Date:	9/1/2013

Project Deliverables: *What is the project going to produce? Create a list of tangible products that will result from project.*

- Three narrative future scenarios for California describing alternative values for uncertain factors like population growth, land use changes, socioeconomic conditions, technological advancement, and institutional and political changes
- Up to 12 scenarios of future climate conditions (precipitation, temperature) for California's ten hydrologic regions and all Central Valley planning areas selected with advice from the Climate Change Technical Advisory Group
- Quantification of future water demands for California's ten hydrologic regions reflecting the three narrative future scenarios and up to twelve future climate scenarios
- Quantification of future water supplies and demands reflecting the three narrative future scenarios and up to twelve future climate scenarios for all Central Valley planning areas
- Performance criteria for evaluating effectiveness of regional water management responses
- Evaluation of many alternative water management responses using Robust Decision Making for all Central Valley planning areas

Strategic Fit: *What is the Strategic Initiative Identifier for this project?*

- Supports integrated regional water management
- Supports recommendations of the California Water Plan Update 2009

Customer: *Who are you doing the project for?*

- Department of Water Resources for support of DWR programs and projects
- Local and regional water planning entities for consideration of alternative future scenarios and water management responses
- California Legislature to meet Water Code requirements
- General public for education on future water issues

Customer Benefits: *What customer requirements does this project address? Relate these to: increase revenue, avoid costs, improve service, and/ or comply with a mandate? Create a short list of customer benefits.*

- Identifies key uncertainties facing water managers including population growth, land use changes, and future climate change
- Evaluates potential water management solutions
- Provides estimates of future water supply reliability and water management sustainability

Successful Completion Criteria: *How will the success of the project be determined from the customer's perspective? Make criteria measurable so there is no doubt as to the project's success. Create a short list.*

- Number of entities outside the Water Plan using scenario information generated by the Water Plan
- Number of water managers outside the Water Plan working with the Water Plan to improve the scenarios

Project Background: *What is the primary motivation for this project? Include a brief high level description of the business area, the current situation, the desired situation, and the gaps that exist. This summary builds on your description in the Project Initiation form.*

Starting with the publication of California Water Plan Update 2005 (DWR 2005), DWR has applied the concept of scenarios to describe future water management conditions. Scenarios are used as baseline conditions described by a collection of different factors that are considered to be beyond the control of water managers. For Update 2009 scenarios were organized around narrative themes of growth, which were then quantified using available information on future population growth, land use patterns, and climate.

Scenarios help to plan for future uncertainty, and planning for future water management is inherently uncertain. Particularly in California which has high population growth in many areas, a robust agricultural sector, and diverse ecosystems. Adding to this uncertainty is the effect of future climate change on the timing, distribution, and amount of precipitation and water requirements. Together these uncertainties often cloud the public dialogue surrounding future water management responses. For example, it is not unreasonable for the public to question if the future additional water demands forecasted by a water agency could be reduced or eliminated with alternative development patterns or additional water conservation. Scenarios enable planners to organize the different factors driving future water demand and supply according to different assumptions about population, development patterns and climate change. In turn, alternative water management responses can be tested under the different scenarios and evaluated for robustness, sustainability, economic costs, benefits and other performance measures.

Project Scope:

In Scope: *List areas and functionality included in project.*	Out of Scope: *List areas and functionality not included in project.*
• Quantification of future water demands for California's 10 hydrologic regions • Quantification of future water supplies and demands for all Central Valley Planning Areas • Evaluation of alternative water management responses for all Central Valley planning areas	• Quantification of future water supplies outside of the Central Valley • Evaluation of alternative water management responses outside the Central Valley

Dependent Projects: *What projects must be underway or completed before this project can be successful?*

- Identification of regional water management strategies as part of Water Plan Resource Management Strategy and Regional Report work teams

Risks: *What characteristics or situations could cause this project to fail? Identify those items which are outside the jurisdiction of project and could result in a "show-stopper" to the project success. Create a short list.*

- Inherent delays associated with model development work from problems with data acquisition, departure of key staff, and discovering errors in model source code
- Limitations in Water Plan funding that prevent full project implementation
- Restrictions of bond fund availability caused by the State's financial crisis
- Contract approval delays and conflicts with contractors over contract terms and conditions

Assumptions and Constraints: *What assumptions were made in defining project? Are there constraints to the execution of project? List assumptions and constraints.*

- $500K in contract spending per year for 2 years
- Contracts in place
- No turn over in key staff or contractors

- Regional Report or Resource Management Strategy teams identify range of future water management strategy implementation.

This Project Should Have:

Project Management Plan ☐	PMP will include: *check all that apply*	Work Breakdown Structure ☐	Communications Plan ☐	Procurement Plan ☐	Human Resources Plan ☐
Quality Management Plan ☐	Stakeholder Register ☐	Risk Register ☐	Project Budget ☐	Project Schedule ☐	DWR Form 1498 ☐

Major High-Level Milestone Targets: *What events measure progress? E.g. Initiation Approved, Analysis Complete.*

Milestone	Target Date
Initial workshop with Statewide Water Analysis network on proposal for Update on 2013	8/2010
Trial run of scenarios analysis and Robust Decision Making	2/2011
Second SWAN workshop describing trial run	4/2011
Third SWAN workshop describing initial scenario results for Update 2013	2/2012
Initial scenario results ready for Public Review draft of Update 2013	9/2012
Final scenario results ready for final Water Plan Update 2013	9/2013

Project Core Team Members

Team Member	Phone/E-mail	Role
Rich Juricich		Project manager
Mohammad Rayej		Technical support
Andrew Draper, MWH		MWH contract manager
David Groves, RAND Corp		Technical support
Brian Joyce, SEI		Technical support
David Yates, NCAR		Technical support
DWR Regional Office staff		Technical support

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Updated By:	Date:
Approved By:	Date: